PROJECT SITE METADATA SURVEY FORM

Name of person updating the form	Date submitted
Xuwei	July 24, 2014

Project Name: **Wanxiang-II Project**

☐ Planned ☐ In-Operation ☒Completed ☐Canceled

Project Description:

Project Developer: Harbin Engineering University (HEU)

Technology Developer: Harbin Engineering University (HEU)

Technology type: Vertical-axis tidal turbine

Resource (wave, tidal): Tidal

Project scale (test site, prototype, array, commercial): Prototype

Installed capacity (MW): 40 kW

Project Website:

Launch Date: 2005

End Date: 2006

Additional Description: It was installed in 2005 and consisted of a bottom fixed vertical-axis tidal current energy plant, which has two H-shaped rotors with adjustable-angle blades and a vertical axle. It consists of a cabin, a pontoon, a cone, a caisson and riggers. The device differs from Wanxiang-I in that it is located on the seabed to avoid damage from typhoons, and it transports power to shore through seabed cables, where the power is converted and regulated to be used for a lighthouse. It can float to the surface when it requires maintenance. In the years since its deployment, Wanxiang-II has been proven to have improved energy conversion efficiency over Wanxiang-I.

The device consists of two 20 kW straight-blade vertical rotors, driven system and a platform. The platform consists of turbine nacelle, caissons and fixed legs. As a totally submerged system, the driven system and the generator are tightly sealed in the turbine nacelle.

Location: The tidal channel between Gaoting on Daishan Island in Zhejiang province and Duigangshan Island. Near Daishan, in the Zhejiang province, China.

Coordinates: 30.223442°, 122.202591°

Process Status: From 2007 to 2009, with the support of the National High-tech R&D Program of China (863 Program) and the United Nations Industrial Development Organization (UNIDO), HEU and Ponte Di Archimedes Co. of Italy jointly developed a 250 kW floating vertical axis marine current device, in which a cymbiform platform and the Kobold vertical axis turbine were adopted.

Licensing Information: N/A

Key Environmental Issues: N/A

Environmental Webpage: N/A

References:

- China Funds Development Of New Tidal Current Energy Devices
- Wang S., Yuan P., Li D., Jiao Y., 2011. Overview of ocean renewable energy in China. Renewable and Sustainable Energy Reviews, 15, 91-111.